

On the 25th and 26th quiet weather prevailed over all the ocean except for a disturbance of limited extent off the Irish Coast.

Charts IX, X, XI, and XII show the conditions on the 28th, 29th, 30th, and 31st, respectively, when there was a slow moving and well defined low over the eastern section of the steamer lanes.

The U. S. Shipping Board steamer *Ingold*, Captain Morgan, cleared from Glasgow for Norfolk on the 24th. She encountered unusually stormy weather for a period extending well into September, as shown by a very comprehensive report submitted by Mr. R. A. A. Ostrom, second officer:

The heavy weather began at midnight on the 25th, wind NW.; force 8, barometer 29.97 inches. At noon on the 26th, position, latitude 55° 27' N., longitude 9° 32' W., the wind shifted to SW., 8, and then increased in velocity, as at 4 p. m. the direction and force were W., 12; barometer 29.61 inches.; 8 p. m. SW., 12; 29.58 inches. Midnight NW., 12; 29.71 inches; 4 a. m., on the 27th, SW., 12; 29.74 inches. Position at noon on the 27th, latitude 55° 06' N., longitude 12° 48' W. From 8 a. m. on the 27th until 8 a. m. on the 29th the wind direction varied from WNW. to WSW., the force from 5 to 9, and the barometric readings from 29.75 inches to 29.93 inches. At 9 a. m. on the 29th a shift of 180 degrees from west to east occurred. The wind then began to veer, increasing slowly in force, and at 10 a. m. on the 30th the direction was SE., 9; barometer 29.51 inches. There was another shift at 11 a. m., when the lowest barometric reading of 29.47 inches occurred, and at 2 p. m. the direction and force were NW., 10; barometer, 29.52 inches. These conditions remained fairly constant until 5 a. m. on the 31st, when the weather began to moderate and the barometer had risen to 29.88 inches. The noon positions of the vessel are as follows: 29th, latitude, 49° 53' N., longitude 20° 50' W.; 30th, latitude 48° 57' N., longitude 25° 30' W.; 31st, latitude 46° 51' N., longitude 29° 44' W.

The *Ingold* also had the unique experience of being badly shaken up by a waterspout, as Mr. Ostrom reports that at about 8 a. m. on the 30th a terrific gust of wind struck the vessel, being violent enough to hurl the man at the wheel 15 feet and swing the ship around. Immediately afterward a waterspout was sighted off the starboard bow.

Vessel storm logs follow:

Belgian S. S. *Londonier*:

Gale began on the 28th, wind E. Lowest barometer 29.34 inches at 2 p. m. on the 28th, wind NNE.; position, latitude 47° 38' N., longitude 37° 47' W. End on the 29th, wind NNE. Highest force 12, ENE.; shifts not given.

British S. S. *Zeeland*:

Gale began on the 28th, wind SW. Lowest barometer 29.28 inches at 11:20 p. m. on the 29th, wind SW.; position, latitude 47° 20' N., longitude 29° 31' W. End on the 30th, wind NW. Highest force 10; shifts SW.-W.-NW.

British S. S. *Glensloy*:

Gale began on the 30th, wind SE. Lowest barometer 29.35 inches at 4 p. m. on the 30th, wind SE.; position, latitude 50° 30' N., longitude 21° 50' W. End on the 31st, wind SW. Highest force 11; shifts S-SSW.

551.506 (265.2)  
NORTH PACIFIC OCEAN.

By F. G. TINGLEY.

Pressure was below normal at Dutch Harbor during the first decade of the month, the departure for this period being approximately -0.28 inch. The lowest barometer reading, 29.20 inches, was recorded on the 3d. During the second and third decades pressure was generally above normal, with the highest reading 30.28 inches, recorded on the 31st.

At Midway Island pressure was above normal by some 0.05 inch during the first and second decades and below normal by 0.10 inch during the last decade. Departures at Honolulu were similar to those at Midway Island, but the amounts were smaller.

Over the central and eastern portions of the ocean August was a very quiet month. In these waters but

three vessels experienced winds of gale force. The Japanese S. S. *Tokushima Maru*, Capt. S. Shibutami, Yokohama for Vancouver, had moderate S. to SW. gales on the 3d and 4th when in latitude 51°-50° N., longitude 141°-135° W. The Danish M. S. *Indien*, Capt. H. Jacobsen, observer, H. V. Lingaae, San Diego for Panama, had gales on the 17th and 18th, reports of which are as follows:

Gale began on the 17th; lowest barometer 29.63 inches at 4 a. m. of the 18th in latitude 19° 39' N., longitude 106° W.; wind at that hour ESE., force 9, with heavy NW. sea; end of gale on 18th; shifts of wind, SE., ESE., E., ESE.; highest force, 9, ESE.

Gale began on the 20th; lowest barometer 29.68 inches at 2 a. m. of the 21st; wind N. by E., force 8, with heavy sea from S.; end of gale on 21st; shifts of wind, ENE., NNE., N.; highest force, 8, N. by E.

The Chinese S. S. *Hwah Ding*, Capt. J. Thorvig, observer, M. Blaise, Honolulu for Panama, experienced a moderate to fresh SE. gale with a heavy sea on the 30th, when in latitude 17° 52' N., longitude 116° W.

In Asiatic waters the most important feature of the weather of the month was the typhoon of the 14th-21st. This typhoon appears to have formed in the region between the Bonin Islands and Guam and was first noted on the 14th. Warnings regarding it were broadcast from various radio stations during the period from the 14th to the 19th. Capt. C. Ericksen, of the American S. S. *West Cayote*, Portland for Moji, has furnished the following report of those received aboard his vessel:

Date August, 1921.	Time.	Latitude N.	Longitude E.	Barometer at center.	Direction.	Radio station.
				Inches.		
14.....	6 a. m.....	22	142	29.13	wnw.	Otchish.
14.....	12 noon.....	23	142	28.98	wnw.	Funabashi.
15.....	6 a. m.....	25	142	28.50	nnw.	Otchish.
15.....	12 noon.....	27	141	28.25	nw.	Choshi.
16.....	6 a. m.....	29	138	28.50	nw.	Do.
16.....	12 noon.....	29	136	28.50	wnw.	Otchish.
16.....	6 p. m.....	29	134	28.74	wnw.	Do.
17.....	6 a. m.....	29	132	28.74	w.	Do.
17.....	12 noon.....	29	131	28.74	w.	Choshi.
17.....	6 p. m.....	30	131	28.74	w.	Dairenwan.
18.....	6 a. m.....	30	130	28.74	wnw.	Maizuru.
18.....	12 noon.....	30	129	28.74	w.	Do.
19.....	6 a. m.....	29	128	28.58	w.	Tsunoshimi.
19.....	12 noon.....	29	127	28.60	w.	Shimotsul.
19.....	6 p. m.....	29	127	29.06	w.	Dairenwan.

Capt. Ericksen states that the reports were plotted on a chart and the movements of the typhoon carefully followed.

This typhoon followed an altogether unusual track, as will be seen by comparing the position from day to day, as given above, with the tracks for August typhoons shown in the MONTHLY WEATHER REVIEW for February, 1921.<sup>1</sup>

According to press dispatches the typhoon appears to have passed inland on the China coast a short distance to the south of Shanghai some time prior to the 23d. The following account of the losses caused is taken from the *New York Sun* of August 24, 1921:

Shanghai, China, August 23.—Fears that a death list running as high as 10,000 has resulted from typhoons around Kingpo on the coast and on the Yangste River were expressed by relief workers to-day.

All communication with the district has been severed.

Two European steamers were reported driven aground on the Shanghai bar and several hundred junks were swamped.

Several vessels were more or less involved in this typhoon and have furnished reports of conditions experienced as follows:

Japanese S. S. *Taiyo Maru*, Capt. S. Togo, observer, M. Nitta, Hongkong for San Francisco.

Gale began on the 18th; lowest barometer 29.26 inches at 3 a. m. of the 19th, in latitude 32° 12' N., longitude 127 E.; wind at that hour, NE. by N., force 10, with a high NNE., sea; gale ended on 19th; highest force of wind, 11, NE. by N.

<sup>1</sup> Reproduction of August Charts from Atlas of the Tracks of 620 Typhoons, 1898-1918, by Louis Froc, S. J.

**American S. S. *China*, Capt. F. W. Wise, observer, V. D. Forbes, Singapore for San Francisco.**

Gale began on the 15th; lowest barometer, 29.41 inches at 4 p. m. of the 16th, in latitude 32° 40' N., longitude 133° 35' E.; wind at that hour, NNE., force 10; shifts of wind, ENE., NE., E.; highest force 10, NNE.

The *China* previously had experienced a fresh gale, on the 13th-14th, when in latitude 31° 30' N., longitude 123° 30' E., at which time the barometer fell to 29.51 inches.

**American S. S. *West Kader*, Capt. Ludwig Petting, observer, C. E. Johnson, Shanghai for Kobe.**

Gale began on the 17th; lowest barometer, 28.68 inches at 4.30 p. m. of the 19th, in latitude 30° 48' N., longitude 127° 28' E.; wind at that hour NE., force 8; end of gale on 20th; shifts of wind, NE., SE.; highest force, 12, ESE. During the height of the storm the *West Kader* was hove to, stern to sea.

As was the case in July, a large amount of fog was reported by vessels on the northern steamship routes.

#### GALES IN THE SOUTH PACIFIC OCEAN.

Several vessels on routes between North American and Australian ports experienced gales in the South Pacific Ocean at the end of July and the beginning of August. The British R. M. S. *Tahiti*, Capt. A. M. Edwin, observer, J. W. Murray, Sydney for San Francisco, via Wellington, ran into heavy weather on leaving the first-named port on July 28 and also on leaving Wellington on August 3. Low pressure prevailed over the Tasman Sea between the dates named, the lowest reading recorded being 28.97 inches. The British R. M. S. *Niagara*, Capt. J. T. Rollo, observer, P. W. B. Denniston, Honolulu for Sydney, was involved in the same general storm from July 31 to August 3. The American S. S. *Ventura*, observer, C. S. Vickery, Sydney for San Francisco, felt the last of the gale on leaving port on the 3d. Reports are as follows:

##### R. S. M. *Tahiti*.

Gale began on July 28; lowest barometer 29.71 inches at noon of that date off Sydney Heads; wind then SSW., force 10, with very rough sea; end of gale on 29th; wind steady from SSW.; highest force, 10.

Gale began in early morning of 3d and ended at noon of same date; lowest barometer, 29.02 inches, occurred at 12.30 a. m. in latitude 38° 03' S., longitude 178° 50' E.; wind steady from NW., highest force, 9; high sea.

##### R. S. M. *Niagara*.

Gale began on July 31; lowest barometer 29.10 inches at 8 p. m. same date in latitude 34° 17' S., longitude 162° 56' E.; wind at that hour W. by N., force 8, high sea; moderate gale still blowing on arrival at Sydney at 11.30 a. m. August 3; shifts of wind, W. by N. to SW.

#### NOTES ON WEATHER IN OTHER PARTS OF THE WORLD.

**British Isles.**—Conditions were unsettled throughout the month, with depressions from the Atlantic crossing the British Isles. In the north and west the rainfall was large, but in the southeast of England, it was again below normal, being much less than might have been expected from the distribution of pressure.<sup>1</sup>

**France.**—At the beginning of the month the drought was continuing in France with undiminished severity. Forest fires and the destruction of mills and farms were being reported daily, the largest being that of the forest of Vorey-sur-Azon, which at one time threatened the towns of Vorey and Bellevu. Heavy rain fell later in southern France, and severe floods on the Garonne and its tributaries. Snow fell in Savoy on the 15th.<sup>1</sup>

**Switzerland.**—Heavy rain has fallen in many parts of Switzerland, breaking the prolonged drought.<sup>1</sup>

**Norway.**—Spitzbergen, August 6.—The heat wave has at last struck Lapland and the polar regions. With the thermometer at 86 degrees, the Eskimos have thrown away their fur garments and are organizing bathing parties. For most Eskimos this bath will be the event of a lifetime, perhaps never to be repeated. The game

##### S. S. *Ventura*.

Gale began on 3d; lowest barometer 29.27 inches at noon, same date, in latitude 33° 50' S., longitude 151° 18' E.; wind at that time, W. by N., force 9; heavy following sea and swell; gale ended on 4th; shifts of wind, W. by N. to WSW.; highest force, 9, W. by N.

#### CRUISE OF U. S. S. BEAR IN ARCTIC OCEAN.

During the month of August, 1921, the U. S. Coast Guard cutter *Bear* made a cruise in the Arctic Ocean, proceeding along the north coast of Alaska as far east as the Canadian boundary, longitude 141° W. Lieut. Commander C. S. Cochran, commanding the *Bear*, and Lieut. R. T. McElligott, acting as meteorological observer, have furnished the Weather Bureau with a report of the weather experienced during the voyage.

The *Bear* passed Cape Lisburne northward bound on the 3d and reached the end of the outward voyage on the 16th. Returning, Bering Strait was passed on the 27th. Between the 3d and 16th the wind was almost constantly from the ENE., the force generally varying from 3 to 6, Beaufort. The temperature of the air, as observed at Greenwich mean noon, or from about 1 a. m. to 2.30 a. m., according to the position of the vessel, ranged from 50° to 30° F. The average temperature for the period between the 3d and 9th was 42° and for that between the 10th and 16th, 35°. For the corresponding periods the temperatures of the surface water were 45° and 32°, respectively.

Between the 18th and 21st the wind was westerly, mostly WSW., force 1 to 5; average air temperature, 41°, water temperature, 42°. On the 22d the wind turned to ENE. and on the 23d to E., remaining then between E. and S. until the 27th and varying in force from 2 to 6. The air temperature from the 22d to the 17th averaged 50°, water temperature, 54°.

Lieut. McElligott states that in general the weather during the cruise was foggy, misty, and hazy. There was not a day without its period of fog or mist. Generally the fog lifted after noon, then holding on and off until night. At Point Barrow it swept across the point in waves. East of there the fog was heavy, lifting as a rule in the morning, settling again in the late afternoon or evening. The last three days of the voyage were marked by several hours of rain and many showers. On the 31st, when approaching St. Michaels, the day broke bright and clear, with fracto-cumulus clouds all around the horizon.

and reindeers are suffering intensely.—*New York Evening Post*, August 7, 1921.

**China.**—Peking, August 25.—Hundreds of villages have been destroyed and thousands of persons left homeless by an overflow of the Hoang-ho, or Yellow River, which, after a month of heavy rainfall, has flooded large areas of the province of Shantung. \* \* \* There has been widespread destruction of crops over the districts of Shantung which, during the last spring and summer, have been suffering from famine.—*New York Tribune*, August 26, 1921.

**Australia.**—Melbourne, August 4.—Recent heavy weather, accompanied by considerable snowfall and heavy rain, in the State of Victoria, Australia, is causing considerable anxiety in shipping circles there. Even in Melbourne, where such conditions are most unusual, several ocean vessels are overdue and there is concern about coastwise traffic.—*New York Journal of Commerce*, August 5, 1921.

The gales and floods in eastern Australia in July were followed in New South Wales and Victoria by the coldest weather experienced for a quarter of a century. Snow has fallen in districts where it has never been seen before.<sup>1</sup>

<sup>1</sup> *Meteorological Magazine*, September, 1921, pp. 232-240.

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